Effectiveness of core clinical skills training in first year Medical Imaging Students

Therese Gunn, Vicki Braithwaite & Kelly Wilson-Stewart: QUT

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Introduction

Effective teaching of core clinical skills to preclinical students can be challenging for educators within higher education healthcare.

It has been demonstrated that the transition from the university setting to the clinical environment can be stressful for undergraduate students [(1)], due to providing imaging within an unfamiliar environment, and the added complication of trying to communicate competently with patients.

Objectives

The aim of this research was to evaluate the perceived usefulness of each of the blended learning techniques offered to students prior to their first clinical placement, with regard to being confidently equipped for this placement.

Students were surveyed to indicate how their prior knowledge in a range of core clinical skills influenced their practical experience in the Medical Imaging Department.

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Methods

Students were surveyed following their first two week clinical block to assess the usefulness of each of the educational teaching methods utilised.

These methods include:

- Interactive tutorials;
- X-raying disarticulated phantoms in the simulation laboratory;
- Role play in the simulation laboratory;
- Virtual positioning software;
- Self-directed learning/reflection.

Students were also asked to indicate their confidence of topics covered in the interactive tutorials such as, interpreting request forms, communication skills, familiarity with medical terminology and imaging series, ability to adapt techniques and developing productive working relationships within the clinical environment.

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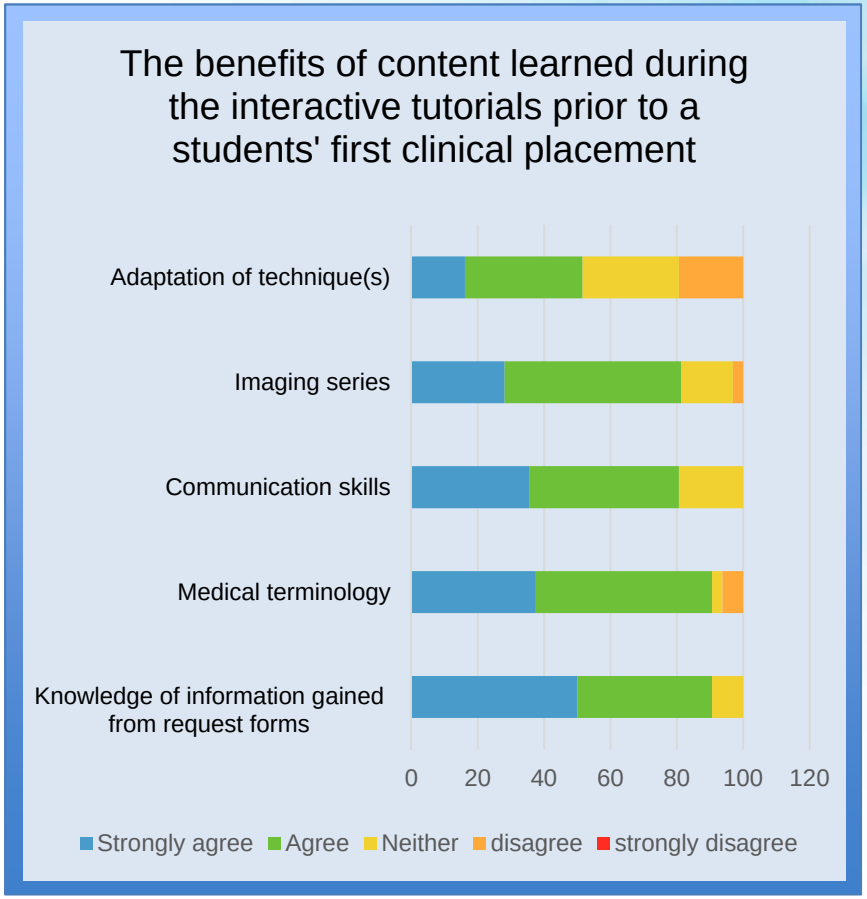

Results

- 93% of students agreed or strongly agreed that the influence of a good working relationship with the clinical team contributed to a positive experience
- 87.5% agreed or strongly agreeing that the interactive tutorials were beneficial
- 90% of students agreed or strongly agreed that skills required to interpret request forms and knowledge of medical terminology benefited them in the clinical environment
- Communication and imaging series knowledge was determined to be beneficial by 80%.
- Adaptation of technique was only beneficial to half the cohort with 50% agreeing or strongly agreeing with this statement.

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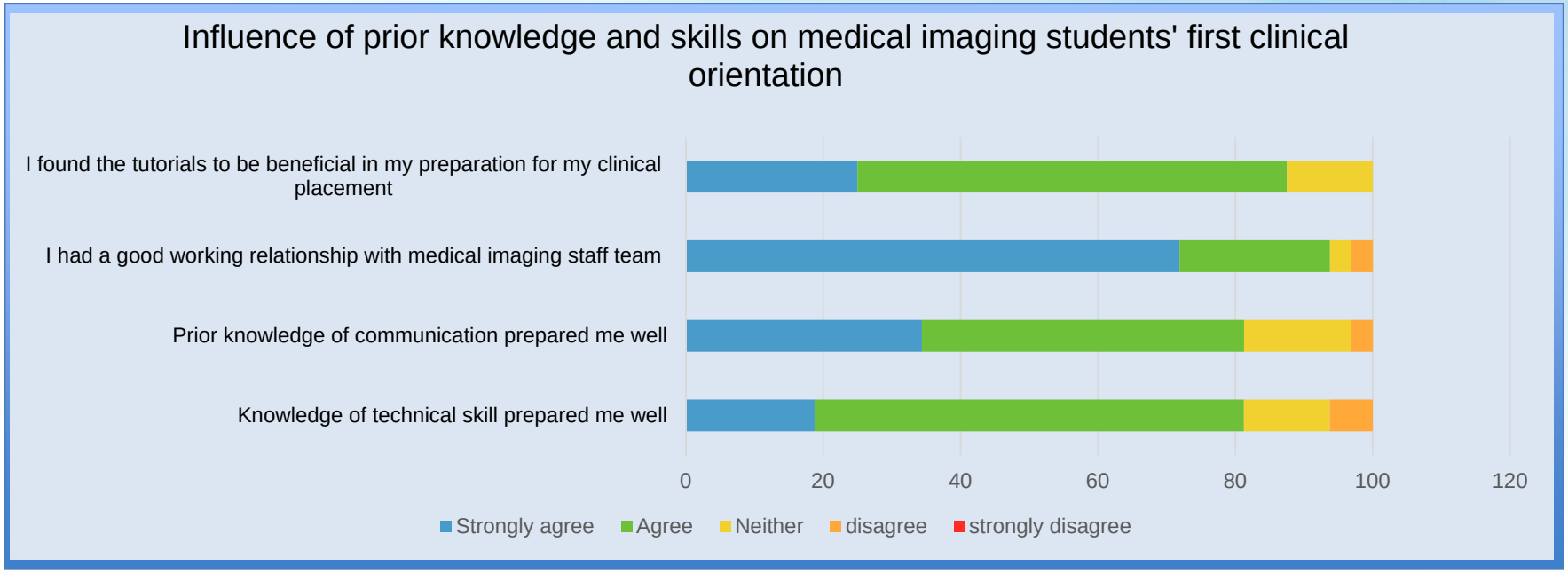
Results

- Of a possible 66 students, 32 successfully completed the survey.
- 25% of respondents were male, 75% female
- 75% were <21 years old
- 6% were >31 years of age
- 100% of all students agreed or strongly agreed to having a positive experience on their first clinical placement.



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Discussion

Not surprisingly, the vast majority of students had a good working relationship with the clinical team. This highlights the importance of positive communication between the clinical educators and students

It is reassuring that 100% of all students agree or strongly agree to having a positive experience on their clinical placement.

It must be noted that just under half of students completed the survey. The reason for not completing the survey needs to be explored.

Another pleasing result is the acknowledgement of 87.5% of students realizing the beneficial outcomes of the interactive tutorial learning on their preparedness for initial clinical placement.

Of these tutorials, students felt that the scenarios based on request form interpretation and medical terminology was useful for 90% of the students, followed by communication skills and the technical skills associated with performing and deciding an imaging series. It must be noted that the benefit of the adaptation of techniques in these tutorials proved beneficial to 52% of the students. These skills are developed in second year and not an expectation of first year, nor the initial clinical placement.

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Where to?

Following results tutorials will be expanded to include:

- Image Interpretation
  - Fundamental skill development – from anatomy knowledge through image quality to basic radiographer opinion
  - More emphasis will be placed on image quality (incorporated with clinical laboratory practical sessions using virtual skills development and hands on)
- Basic adaptation of technique
  - First skills development is on the 'compliant patient' which is a rare event in medical imaging. Discussion will be held on the basic communication and clinical skills required to adapt technique from 'textbook' radiography
  - Further discussion on the varied patient presenting themselves to a Medical Imaging department
- Further research to explore and reflect on changes implemented

References

1. Swamy, M., et al., Role of SimMan in teaching clinical skills to preclinical medical students. BMC Medical Education, 2013. 13 (1): p. 20-20.